

Push or Pull?

Pushing and pulling are common activities in many work environments. At your job, you may be required to push and pull large and small items, levers, cables, boxes, carts, and more. When moving any load, use carts, dollies, mechanical or gravity fed rollers, mechanized carts, vacuum lifts, or powered equipment. Keep in mind that pushing or pulling these devices can strain your back, shoulders, and arms if not handled properly. Minimize the likelihood of an injury by evaluating the load, and by practicing safe ergonomics. Consider the following suggestions when you are required to push or pull a heavy object.

Before You Move the Load

Keep the following factors in mind prior to moving a load:

- Weight of the load.
- Height where the force is applied (location of handles or conveyor height).
- Direction of the force applied (straight on or at an angle).
- Slope and condition of the surface.
- Condition of the item to be moved.
- Posture when pulling the load (bending forward or twisting).
- The need for additional help.
- Grip of the worker's shoes on the floor surface.
- Surfaces should be clean and free of debris to reduce physical barriers to movement.
- The route of movement should be evaluated and cleared of obstructions to minimize the exertion necessary to stop and re-start movement of the load.
- Assess the stability of the load, and what means are necessary to stabilize the load.
- Evaluate the potential use of leverage in moving the load through such measures as the use of pry bars; or exerting force at an angle, and 'walking' the load.
- Anticipate the movement of the load should it break free, and anticipate your reaction to get clear of it. You may not have time to think...only react.
- Position yourself to minimize injury in the event that the load does break free.

Make sure that you are not exceeding the recommended force for pushing your cart or hand truck.

Use devices that reduce friction between the object being moved and the surface area. For example, mount appropriate casters on carts and movable furniture to assure smooth unbroken surfaces on counters and shelves. Utilize slip sheets for moving patients and sliders for moving heavy items on carpet.

Use a vehicle or conveyor that can accommodate the size and weight of the load you are moving. Ensure that the design and type of conveyance is well maintained and appropriate for the item to be moved.

The Importance of Ergonomics

When pushing or pulling heavy objects, make sure to use good body mechanics:

- Tighten your stomach muscles.

- Bend your knees.
- Lean in slightly toward the object you are pushing.
- Lean slightly away from the object when pulling.
- Keep your back and wrists straight.
- Use your legs and weight of your body to move the object.

When possible apply force from approximately elbow height. Add handle extensions or provide vertical handles. Verify that conveyor heights are correct. Install platforms in workstations or redesign workplaces so that vertical pulls are not above shoulder height or below knee height.

In general, push rather than pull. Pushing a load is generally less stressful on your body because you use the weight of your body and maintain a more neutral posture. When you pull, your body is often twisted and you frequently use only one hand, increasing the possibility of injury. The stability of the load is increased, and stress on the upper body and likelihood of injury is reduced when the load is pulled while using some devices, such as hand trucks.

Keeping a mindset of safety is essential before pushing or pulling a load. You can reduce the chances of injury by ensuring that you assess the load prior to moving, using assisted devices properly, and following safe ergonomic practices.

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